2025 consultation

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Submitter	Dr Professor Shumi Akhtar Associate Professor The University of Sydney
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Dr Shumi Akhtar
Associate Professor
The University of Sydney

RE: Submission to Net Zero Commission Consultation

Question 1: *What can you tell us about your experience of the impacts of climate change and how can the commission seek to reflect and respond to this in its work?*

With many years of academic, policy and field expertise in climate, ESG and sustainability dimensions, I have directly observed how anthropogenic climate change has reshaped Australia's and worldwide biophysical landscape. The increasing frequency and intensity of extreme events—including the 2019-20 Black Summer bushfires, prolonged droughts in the Murray-Darling Basin, marine heatwaves along the coast, and record-breaking floods—exemplify the risks NSW faces. These events are not isolated anomalies but part of a systemic trend underpinned by well-established climate science. The Commission must ground its work in this lived reality, prioritising inclusive consultation, dynamic risk modelling, and equity-led adaptation planning. Integrating social vulnerability indices with climate exposure data will ensure responses are both just and effective.

Question 2: *What actions can the commission take to engage across the community to help drive the shifts needed for the net zero transition and for effective climate change mitigation and adaptation?*

A successful transition to net zero requires cultural as well as technological change. The Commission should: (1) Establish regional Net Zero Transition Councils that include local government, Indigenous leaders, business, youth, civil society and academics researchers that are expert based on data-driven evidence; (2) Develop a digital climate action portal with real-time data, educational resources, and localised adaptation toolkits; (3) Support community-led energy cooperatives and food system innovations. These measures will help fostering transparency, trust, and collaborative agency, enabling all communities to participate in and benefit from the transition.

Question 3: *How should the commission best engage with First Nations people to learn about cultural knowledge and practices to support adaptation, and what information and evidence should it draw on?*

The Commission should engage via formal partnerships with Aboriginal Land Councils, Traditional Custodian groups, and Indigenous and Non-Indigenous academics that specialize in finance, AI, economics, law and public policies. Mechanisms must reflect FPIC (Free, Prior, and Informed Consent), respect for Indigenous IP, and long-term resource commitments. Sources should include: (1) Indigenous seasonal calendars and oral histories; (2) documented cultural burning practices; (3) collaborative research in Indigenous-led land stewardship; and (4) work being done under the Indigenous Dialogue Knowledge Frameworks. Most important, Australia should protect our natural resources from the foreign investors as it loses control.

Finance Discipline
University of Sydney Business School
[redacted]
Camperdown

T +[redacted]
E shumi.akhtar@sydney.edu.au
sydney.edu.au

ABN 15 211 513 464
CRICOS 00026A

Question 4: *What additional mechanisms, support, or incentives can meaningfully empower and enhance First Nations people's involvement in climate mitigation, adaptation and environmental stewardship?*
NSW should establish a First Nations Climate Justice Fund to support climate adaptation and decarbonisation projects led by Indigenous communities. Incentives should include preferential access to renewable energy tenders, training and employment pathways in land and sea country management, and legal recognition of Indigenous Ecological Knowledge (IEK) as a valid planning input. Community-owned clean energy infrastructure, backed by public investment, could drive both mitigation and sovereignty.

Question 5: *What additional information and evidence should the commission consider when assessing progress towards NSW's targets for reducing net greenhouse gas emissions?*
To enhance transparency and accountability, the Commission should: (1) Integrate Scope 3 emissions tracking into sectoral reporting; (2) Conduct sub-regional emissions inventories to identify geographic disparities; (3) Track carbon leakage from imported goods and services; (4) Model avoided emissions from resilience-based land use changes; and (5) Benchmark performance against international leaders such as British Columbia, Denmark, and California. Inclusion of co-benefit metrics, such as health improvements and job creation, would ensure holistic evaluation.

Question 6: *What more could be done to fast-track deployment of electricity generation and infrastructure?*
NSW must adopt a whole-of-network approach. Key actions include: (1) Establishing a fast-track approvals unit within the Department of Planning; (2) Prioritising investment in Renewable Energy Zones (REZs) with public underwriting of grid upgrades; (3) Providing concessional finance for battery and pumped hydro storage; (4) Streamlining land access through negotiated Indigenous and community agreements; and (5) Scaling workforce training in renewables and grid integration technologies.

Question 7: *Are current measures sufficient to ensure community engagement and benefit sharing from energy infrastructure?*
No. Benefit sharing must be embedded as a mandatory, not optional, requirement. NSW should legislate community benefit agreements for all major energy projects, with minimum benchmarks for local employment, reinvestment in social infrastructure, and transparent revenue sharing. Impact assessments must include social licence indicators.

Question 8: *Are First Nations communities adequately engaged and included in sharing the benefits of the transition?*
Current engagement remains inconsistent and extractive. NSW should co-design a First Nations Clean Energy Accord based on successful international models like the Canadian First Nations Power Authority. Equity participation, community governance, and protection of land rights must be fundamental.

Question 9: *What are likely to prove the most effective approaches to accelerate rapid decarbonisation across freight and passenger transport?*
The Commission should recommend: (1) A Zero Emissions Vehicle (ZEV) sales mandate by

2035; (2) Transitioning public fleets to EVs and hydrogen by 2030; (3) Freight mode-shift subsidies to rail; (4) Congestion charging in urban areas with reinvestment in public transport; and (5) Incentives for EV car-share and micro-mobility solutions in low-income areas.

Question 10: *What specific actions or policies could increase uptake of emissions reduction strategies in agriculture, both in the short and long term?*
Short-term: subsidise methane-reducing feed supplements and fund emissions benchmarking tools. Long-term: introduce a sustainable land certification program linked to market access and integrate carbon farming into mainstream rural extension services. Leverage voluntary carbon markets only where integrity is verified.

Question 11: *How should NSW incorporate the land sector into climate policy given net emissions uncertainties?*
Use a precautionary approach that includes both biophysical and socio-ecological data. NSW should: (1) Prioritise permanence and additionality in carbon projects; (2) Develop a state-wide Land Sector Carbon Budget; (3) Link accounting frameworks with biodiversity and water outcomes; and (4) Invest in high-resolution land change mapping.

Question 12: *What specific actions could increase carbon storage and resilience of the existing carbon stock in the land sector?*

(1) Ban native vegetation clearing in high carbon soils; (2) Incentivise regenerative agriculture; (3) Fund biocultural landscape restoration led by Indigenous communities; (4) Protect existing remnant vegetation through stewardship covenants.

Question 13: *What policies or programs at a sectoral level could complement the Safeguard Mechanism for heavy industry?*

Establish Industrial Decarbonisation Roadmaps for each major subsector, linked to rolling 5-year carbon budgets. Provide transition grants tied to verified emissions reductions and implement Border Carbon Adjustments (BCAs) for emissions-intensive imports.

Question 14: *What measures could accelerate industrial heat electrification in NSW?*

(1) Create sector-specific electrification blueprints; (2) Offer capital grants and green bonds; (3) Invest in demonstration hubs; (4) Require future-proofing for all new industrial infrastructure to accommodate electrification.

Question 15: *What measures could address challenges in waste generation and resource recovery?*

(1) Mandate product stewardship schemes for high-emission materials; (2) Scale composting capacity to handle organic bans; (3) Integrate waste reduction targets into development controls; (4) Expand waste-to-value research hubs.

Question 16: *How could transparency of coal mine Safeguard Mechanism compliance be improved?*

Legislate open-access data publication, mandate satellite and in-situ methane detection, and require independent environmental audits published in full.

Question 17: *What measures would lead coal mines to prioritise on-site abatement over offsetting?*

(1) Establish tiered offset caps; (2) Offer abatement-linked tax credits; (3) Tie mining approvals to demonstrated abatement investments; (4) Ban offsets from low-integrity sources.

Question 18: *What measures beyond the Safeguard Mechanism should be considered for resources sector emissions?*

(1) Develop a standalone Fugitive Emissions Regulation Scheme; (2) Require early mine closure plans with GHG mitigation strategies; (3) Establish a legacy emissions rehabilitation fund.

Question 19: *What additional measures could accelerate electrification and energy efficiency in buildings?*

Mandate net-zero building codes, expand Energy Performance Certificates (EPCs) to all building types, and integrate digital twin technologies in urban planning.

Question 20: *How could social equity be better addressed in the transition to electrified buildings?*

Establish a Just Energy Transition Authority to coordinate equity programs, fund upgrades for renters and vulnerable households, and adopt means-tested rebates for high-efficiency appliances.

Question 21: *What approaches could NSW consider to eliminate high-GWP refrigerants?*

Mandate lifecycle refrigerant tracking, offer rebates for low-GWP upgrades, and restrict imports of non-compliant units by 2028.

Question 22: *What should be included in a monitoring framework for net zero?*

Include: - Scope 1, 2, and 3 emissions tracking - Sector-specific decarbonisation pathways - Distributional equity metrics - Indicators of community resilience and just transition outcomes

Question 23: *What does a more climate-resilient NSW look like to you?*

One where infrastructure, communities, and ecosystems are shock-resilient, data-informed, and governed through participatory mechanisms. It includes green urban spaces, decentralised energy systems, and empowered First Nations custodianship.

Question 24: *What additional information should the commission consider to assess progress toward the adaptation objective?*

Use composite indices that combine vulnerability, exposure, and readiness. Leverage crowd-

sourced data, Indigenous ecological knowledge, and climate-adjusted economic models.

Question 25: *How can adaptation planning better use NSW climate projections (NARCliM)?*
NARCliM outputs should be embedded into statutory planning, insurance models, and disaster response protocols. Training must be provided to ensure non-experts can interpret projections accurately.

Question 26: *What other information/tools are needed to support NSW decision-makers?*
A centralised Climate Risk and Opportunity Portal, linked to emissions inventories, socioeconomic data, and scenario modelling tools. Decision-makers need user-friendly tools to integrate climate into cost-benefit analysis.

Question 27: *What initiatives should be considered in assessing NSW's readiness for extreme heat and humidity?*

(1) Establish an Extreme Heat Vulnerability Index; (2) Invest in passive cooling infrastructure; (3) Require heat-resilient urban design in planning laws; (4) Fund longitudinal health studies linked to climate exposure.

Sincerely,

Shumi
Dr M. SHUMI AKHTAR | Associate Professor
Discipline of Finance | The University of Sydney Business School
THE UNIVERSITY OF SYDNEY
Rm 423, The University of Sydney Business Building (H69) |
Cnr of Codrington Street & Darlington Lane | Camperdown Campus
The University of Sydney | AUSTRALIA | NSW | 2006
[redacted]
E shumi.akhtar@sydney.edu.au | **W** http://sydney.edu.au/business/staff/shumia

THE UNIVERSITY OF SYDNEY

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